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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/308,770	10/28/1999	FRITZ SCHWERTFEGER	3259.81131	6628

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EXAMINER
JOLLEY, KIRSTEN

ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/308,770	SCHWERTFEGER, FRITZ	
	Examiner	Art Unit	
	Kirsten C. Jolley	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6-24* is/are allowed.

6)☒ Claim(s) *25-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

5.30

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed May 31, 2005 regarding the rejection of claims 25-41 have been fully considered but they are not persuasive. Applicant argues that the rejection of claims 25-41 over WO '809 in view of Lentz et al. should not be applied because the proviso that fibers are not added in step a) is supported by the present application which states that fibers can be added during the preparation of the sol, and because claim 25 recites that this optional step is not used. The Examiner disagrees. The Examiner notes that negative limitations which do not appear in the specification as-filed introduce new matter, as discussed in more detail below.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 25-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 25, the new limitation "with the proviso that fibers are not added in step a)" is new matter. It has been held that negative limitations, which did not appear in the specification as-filed, introduce new concepts and violate the description requirement of 35

U.S.C. § 112. *Ex parte Grasselli et al.*, 231 USPQ 393 (Bd Pat App & Int 1983): "It might be added that the express exclusion of certain elements implies the permissible inclusion of all other elements not so expressly excluded. This clearly illustrates that such negative limitations do, in fact, introduce new concepts." For example, the express exclusion of adding fibers in step a) implies that fibers may be added in steps b) through e); there is not support for such scenarios in the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 25-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/06809 A1 in view of Lentz (US 3,122,520).

Frank et al. (US 5,866,027) is used as a working English translation of WO 96/06809 A1.

WO '809 discloses a process for the preparation of organically modified aerogels comprising the steps of claim 1 (col. 4, lines 28-50 of Frank et al.). WO '809 teaches that a surface-silylating substance is used whereby surface-modifying substances of the general formula R'_nMX_m are used to replace original surface groups with inert groups of the type MR'_n (col. 3, lines 21-64 of Frank et al.). It is noted that where X is a radical -OR", the surface-modifying substance of WO '809 is a siloxane. WO '809 lacks the teaching of using a *di*siloxane of the claimed formula. Since the list of surface-modifying substances of WO '809 is

exemplary, one skilled in the art would have been motivated to look to the prior art for other surface-modifying substances that may be used in its invention.

Lentz et al. is cited for its teaching of organosilicon compounds that may be used as surface-silylating/modifying substances for a hydrogel compound that is subsequently washed free of water and dried. Lentz et al. teaches that the organosilicon compounds of its invention react with the original surface groups of a hydrogel according to the same reaction: R_nSiX + HOSi yields R_nSiOSi + HX (col. 3, lines 38-42). Lentz et al.'s organosilicon compounds usable for hydrophobing the hydrogel (col. 4, lines 11-27 and Examples of Lentz et al.) overlap those of WO '809, including the use of trimethylchlorosilane. Lentz et al. also teaches the use of disiloxanes of the claimed formula including hexaethyldisiloxane and hexamethyldisiloxane. It would have been obvious for one having ordinary skill in the art, seeing the references of WO '809 and Lentz et al. in combination, to have substituted any of the surface-silylating substances of Lentz et al., including hexaethyldisiloxane or hexamethyldisiloxane, as the surface-silylating substance in the invention of WO '809 with the expectation of successful results since WO '809 and Lentz et al. teach the organosilicon compounds are for the same purpose and are similarly for use in forming aerogels and the compounds react according to the same reaction.

With respect to the new limitation requiring that fibers are not added in step a), it is noted that Frank et al. adds fibers for the purpose of increasing mechanical stability of its xerogel. It is the Examiner's position that it would have been obvious for one having ordinary skill in the art to have not added the fibers in Frank et al.'s process of producing a xerogel with the expectation of a loss in mechanical stability in the final product. The omission of an element with the

consequent loss of its function has been upheld as within the level of skill of the ordinary artisan. *In re Wilson*, 153 USPQ 740.

As to claim 26-27, 37, 38, and 41, WO '809 additionally teaches steps of aging aerogels, increasing the mechanical stability of aerogels, and subcritical drying.

As to claim 28, WO '809 teaches washing until the water content is less than or equal to 5 wt% (col. 4, step d) of Frank et al.). As to claim 29, WO '809 teaches aliphatic or aromatic solvents in col. 3, lines 9-20.

As to claims 34 and 40, Lentz et al. teaches reacting the hydrogel with the surface-modifying organosilicon compound in the presence of a strong acid catalyst (col. 3). It would have been obvious to have used a catalyst in the method of WO '809 in order to increase the speed of the surface-modifying reaction with the expectation of successful results upon seeing the Lentz et al. reference since the reactions of WO '809 and Lentz et al. are similar.

As to claims 36 and 39, WO '809 teaches that the solvent for washing is protic or aprotic, and include aliphatic alcohols (col. 3, lines 9-16).

Allowable Subject Matter

6. Claims 6-24 are allowed for the reasons set forth in section 6 of the prior Office action.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten C. Jolley whose telephone number is 571-272-1421. The examiner can normally be reached on Tuesday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kirsten C Jolley
Primary Examiner
Art Unit 1762

kcj